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CERMAK KENEALY & VAIDYA LLP			EXAMINER	
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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/725,562  
Filing Date: December 03, 2003  
Appellant(s): GUTMARK ET AL.

**MAILED**  
**DEC 11 2007**  
**Group 3700**

\_\_\_\_\_  
Adam Cermak  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed September 6, 2007, appealing from the Office action mailed October 10, 2006.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is incorrect. Claim 16 has not been twice rejected.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

**WITHDRAWN REJECTIONS**

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner.

The rejection of claims 1-8 under provisional obviousness-type double patenting over claims 1-6 of application no. 10/725,563 has been withdrawn.

The rejection of claims 1-8 under provisional obviousness-type double patenting over claims 1-6 of application no. 10/725,564 has been withdrawn.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

6,464,489

GUTMARK

10-2002

Meriam-Webster online diction web screen print out of definitions for the term

"modulate", internet address:<http://www.m-w.com/dictionary/modulate>.

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 102***

Claims 1-3, 5-8 and 16 are rejected under 35 U.S.C. 102(a) as being anticipated by Gutmark (6,464,489), which shows all of the claimed limitations. Gutmark shows, among other things,

1. A method of affecting thermoacoustic oscillations (see at least col. 3, lines 15-31) in a combustion system having at least one burner 14 and at least one combustor 16, the method comprising: modulating fuel injection (see at least col. 3, lines 15-31) into a recirculation zone which forms in the combustor (see at least fig. 1A).

2. The method as claimed in claim 1, wherein the total quantity of fuel injection comprises a first quantity and a second quantity, and comprising: injecting the first quantity of fuel at a constant rate; and injecting the second quantity of fuel in a modulated manner (see at least col. 7, lines 50-63).

3. The method as claimed in claim 2, wherein the second quantity of fuel is smaller than the first quantity of fuel (see at least fig. 6).

6. The method as claimed in claim 1, wherein said modulating fuel injection is coupled to an oscillation phase of the thermoacoustic oscillations (see at least col. 3, lines 15-31).

7. The method as claimed in one of claim 1, said modulating fuel injection is performed exclusively into the recirculation zone. (see previous claims)

8. The method as claimed in claim 1, wherein said injection of fuel into the recirculation zone is performed exclusively in a modulated manner. (see previous claims)

*Claim Rejections - 35 USC § 103*

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gutmark (6,464,489), which discloses substantially all of the claimed limitations. Gutmark does not specifically recite,

4. The method as claimed in claim 2, wherein the second quantity of fuel is approximately between 6% and 1% of the total quantity of fuel.

Nevertheless, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have incorporated the claimed range into the invention disclosed by Hermann, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable values or ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233; *In re Swain*, 156 F.2d 239.

**(10) Response to Argument**

*Claims 1, 6, and 16 rejected over Gutmark*

Appellant asserts that the rejection fails to anticipate the claims because Gutmark fails to specifically recite the claimed limitation in the manner in which it is recited. Nevertheless, the reference anticipates the claimed method given its broadest reasonable reading. As such, the rejection is clear and shows each and every element of the claims and the corresponding section in the prior art. As regards the analogies, the examiner apologizes if he came across as combative. The examiner attempted to stay on point and hoped to encourage applicant's representative to point out the limitations in the claims that were missing.

*Claims 2 and 3 rejected over Gutmark*

Appellant asserts that the rejection fails to anticipate the claims because there is no mention of a first and second quantity. First it should be mentioned that the distinction made between the two quantities appears to be one of constant rate and one in a modulated manner. The broadest reasonable interpretation of the term "modulate" is to keep in proper measure or proportion (see definition 2 of the attached Merriam-Webster Online Dictionary printout), which the examiner reads as "at a constant rate." Since there is no distinction between the two quantities based on this interpretation, then it is believed that the flow of fuel disclosed by Gutmark satisfies the broad recitation in the claims as a single flow can be recognized as being a combination of several quantities.

*Claim 5 rejected over Gutmark*

Appellant asserts that the rejection fails to anticipate the claims because there is no explicit recitation in Gutmark that fuel injection is independent of an oscillation phase. Nevertheless, the rejection clearly cites col. 3, lines 15-30 of Gutmark with regard to claim 6, which requires dependence. The cited section specifically recites that method may be accomplished either way.

*Claim 7 rejected over Gutmark*

Appellant asserts that the rejection fails to anticipate the claims because Gutmark fails to "identically disclose or describe" the subject matter of claim 7. Nevertheless, Gutmark is implicit thereto, as disclosed in at least fig. 1A on the left hand side. Flow modulation would be occur in the early stage of injection as shown at the left

hand side of the figure, which also includes a shear layer. Accordingly, given the broadness of the claimed recitation, it is believed to be at least implicitly anticipated.

*Claim 8 rejected over Gutmark*


Appellant asserts that the rejection fails to anticipate the claims because Gutmark does not specifically recite injection of fuel into the recirculation zone in a modulated manner. Nevertheless, as discussed above fuel injection is modulated and it is directed into the recirculation zone. Accordingly, the claimed recitation is satisfied. Again, given the broadness of the claimed recitation, it is believed to be at least implicitly anticipated.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

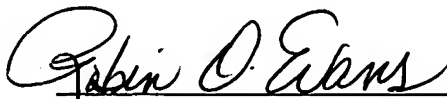
For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

  
\_\_\_\_\_  
Alfred Basichas

Conferees:

  
\_\_\_\_\_  
Steven McAllister

  
\_\_\_\_\_  
Robin Evans



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## modulate

One entry found.

### modulate

Main Entry: **mod·u·late**

Pronunciation: \ˈmā-jə-,lāt\

Function: *verb*

Inflected Form(s): **mod·u·lat·ed**; **mod·u·lat·ing**

Etymology: Latin *modulatus*, past participle of *modulari* to play, sing, from *modulus* small measure, rhythm, diminutive of *modus* measure — more at **METE**

Date: 1615

*transitive verb*

**1** : to tune to a key or pitch

**2** : to adjust to or keep in proper measure or proportion : **TEMPER**

**3** : to vary the amplitude, frequency, or phase of (a carrier wave or a light wave) for the transmission of information (as by radio); *also* : to vary the velocity of electrons in an electron beam

*intransitive verb*

**1** : to play or sing with **modulation**

**2** : to pass from one musical key into another by means of intermediary chords or notes that have some relation to both keys

**3** : to pass gradually from one state to another

— **mod·u·la·tor** \-,lā-tər\ *noun*

— **mod·u·la·to·ry** \-lə-,tōr-ē-, -tōr-\ *adjective*

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